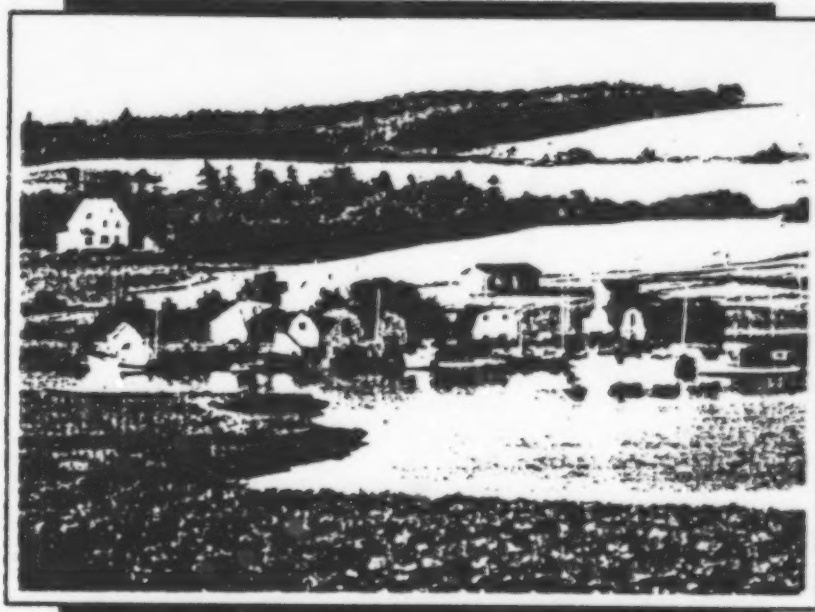


P.E.I. ENVIRONMENTAL ADVISORY COUNCIL



1989

ANNUAL REPORT





PRINCE EDWARD ISLAND

ENVIRONMENTAL ADVISORY COUNCIL

11 Kent Street P.O. Box 2000, Charlottetown, PE C1A 7N8

Telephone (902) 368-5905

Hon. Gilbert Clements
Minister
Department of the Environment
P O Box 2000
Charlottetown, PE
C1A 7N8

Dear Mr. Clements:

In accordance with the requirements of the Environmental Protection Act, I have the honour of presenting the annual report of the Environmental Advisory Council.

This report covers the period from January 1989 to December 31, 1989.

Respectfully submitted,

Preston MacDonald
Chairman

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INTRODUCTION

The P.F.I. Environmental Advisory Council is made up of twelve individuals appointed by the Minister of the Environment to provide him with advise on environmental matters. None of the members are civil servants, nor do they receive any financial compensation. During 1989 the size of the Council was expanded from ten to twelve members.

The Environmental Advisory Council was established as a recommendation of the Provincial Conservation Strategy which was accepted and then tabled in the Legislature by the Government of P.E.I. in 1987. The recommended duties of a Conservation Council were to include:

- . reviewing progress on the Conservation Strategy and presenting an annual "State of the Environment" report to the Legislature.
- . recommendation on the distribution of conservation funds and the conservation awards.
- . coordinating effective efforts among private groups in the field of conservation.
- . advising a Minister or Executive Council on new programs and policies.
- . providing liaison with the proposed conservation center.

To facilitate the establishment of a committee, the government chose to revitalize a committee, the Environmental Advisory Council, which is a mandatory committee under the Environmental Protection Act. The terms of reference for this committee are similar to that proposed under the Conservation Strategy. The specific terms of reference are listed at the end of the introduction.

Note:

Quotes from the Conservation Strategy have been underlined to facilitate comparison between recommendations of the Strategy and the activities and recommendations of the Council, which have been typed in bold print.

GOVERNMENT ACTIVITIES IN GENERAL FOR 1989

Two activities of government in 1989 stand out as being particularly important in ensuring the sustainability and protection of our environment.

The first of these was the establishment of a new Department of the Environment, with its own Minister and Deputy Minister. While not a large department, it might be hoped expansion will occur as time progresses. The provision for a Department of the Environment raises the profile and importance attached to ensuring the sustainability and protection of our environment.

The second was the activities related to the Conservation Strategy section of the Department of the Environment. Funds provided for the operation of the Island Conservation Assistance Program (a function of the Conservation Strategy unit) as well as the staff to facilitate and coordinate applications for additional funds and the provision of supervision and technical expertise, have resulted in a significant number of very worthwhile projects during 1989. The projects have begun to raise the interest of the organizations and communities where the projects have taken place. We feel that it is tremendously important for projects to be community and organization driven, with government acting in a supportive role. When projects are developed by the communities, public support and consequently, results are better and longer lasting.

In addition the Environmental Advisory Council was pleased with the statements of the Premier this year that a new, additional program designed to provide employment and experience working in the environmental field for young Islanders would be established.

**ENVIRONMENTAL ADVISORY COUNCIL
TERMS OF REFERENCE**

Section 4(2) of the Environmental Protection Act sets out the Councils responsibilities. The Act provides that:

"(2) the Council shall:

- (a) serve as an advisory board to the Minister (of the Department of the Environment)
- (b) perform such functions as may be prescribed by regulations".

The mandate for the Environmental Advisory Council as prescribed by the Act is somewhat vague, in order to be all encompassing. In discussions with the Minister, he advised Council that he felt that nothing of an environmental nature should be out of bounds for the Council to investigate.

In order to provide for more definition respecting this mandate, the following terms of reference were developed by Council and subsequently approved by the Minister:

1. To advise the Minister of the Department of the Environment on matters referred to it by him or the public under the Environmental Protection Act;
2. To report annually to the Minister on submissions received, research conducted, investigations undertaken, and recommendations made under the Environmental Protection Act;
3. To advise the Minister on environmental matters related to activities in relation to the Provincial Conservation Strategy;
4. To make recommendations to the Minister on conservation or environmental improvement awards;
5. To make recommendations to the Minister respecting opportunities for environmental improvement protection programs or projects;
6. To recommend to the Minister public education projects or programs;
7. To make recommendations to the Minister respecting support for community, private and non-government programs and projects;
8. To advise the Minister on legislative proposals as they relate to environmental protection and enhancement;
9. To advise the Minister on such matters as he may direct.

(4)

10. To perform such functions as may be provided for by regulations under option 4.2(b) of the Act.

AGRICULTURE

(5)

EROSION

"Soil degradation, primarily erosion is the single most important resource problem facing the province".

"Soil degradation is not simply a problem for the farmer... degradation becomes a concern for society as a whole."

The Environmental Advisory Council is very concerned about the soil erosion problems on Prince Edward Island. Our concerns are heightened by the announced new potato processing plants which will require additional land to be placed in row cropping. Length of crop rotation will likely decrease, rather than increase as desired for long-term sustainability and proper land care. Off-farm results of erosion which have long been causing serious degradation of streams, ponds, estuaries and bays are not being adequately addressed with the present acreage of potatoes. We are not suggesting that it is undesirable to have new processing plants; rather we are stating that the challenge of controlling soil erosion on Prince Edward Island has to be met.

There is little indication that the Department of Agriculture has accomplished much regarding soil erosion on P.E.I. The few demonstration projects showing techniques such as terracing and grassed waterways have not been widely implemented. In the last agricultural E.R.D.A. agreement, about 95% of the money earmarked for cost shared conservation programs went into subsoil drainage. In the new agreement, the cost shared program has been directed to manure management and drainage. It appears that once again cost shared soil erosion abatement will "fall through the cracks".

Presently no money is earmarked for off-farm effects of soil erosion even though studies have indicated that those costs may be 3-4 times as high as on-farm costs. The National Soil Conservation Program does address some of the problems, but the financial incentives and assistance to farmers is modest.

"Extension service of the
Department of Agriculture
should be updated

In order to make farmers, students and the general public more informed about the problems of agricultural erosion, a video "Just Trying to Make a Living" was produced by the Dept. of Agriculture. The video focuses on farming techniques that reduce erosion and the negative impacts on various ecosystems if erosion is not corrected. It is available to the general public and hopefully will be shown in the schools, at community gatherings and agricultural meetings.

This video on erosion could serve as a focus for discussion about problems, techniques and solutions.

Although recommendations for increased extension staffing were made by both Council and many agricultural organizations last year, there appears to be little activity in this direction.

1. There is a need for additional extension staff who have a thorough knowledge of farming, soil erosion and as well the farmers and the land they work.

2. There persists a need for providing farmers with detailed, first hand information about the necessity and benefits of combating soil erosion.

AGRICULTURAL SPRAYING/CHEMICALS

"A system for the collection, storage and the ultimate out of province transfer of hazardous wastes should be developed".

The Council reviewed the use of chemical sprays on P.E.I. and made suggestions.

3. Council made nine recommendations related to the use of chemicals. These included the expansion of buffer zones around water, training in the proper use and application of chemicals and the need for improved techniques for container disposal. The details of the recommendations are listed in Appendix A.

LAND DEVELOPMENT CORPORATION LANDS

The LDC holds or transfers large acreages of land each year. The Council feels that these lands should serve as models of erosion control.

4. The Environmental Advisory Council strongly recommends that those portions of LDC lands that are adjacent to streams or are high risk for soil erosion be permanently retained by the Crown and that "greenbelts" be established on such sites.

5. Communities should be encouraged by government to establish greenbelts along streams and wetlands.

(8)

Much of the soil eroded from Island farmland that reaches streams arrives via highway ditches. The amount of erosion on farms and highways is not expected to decrease until sound management guides changes in attitudes and techniques. Therefore, in the interim, we suggested that a major effort be directed at removal of sediment from run-off in ditches before the pollutions reach streams.

6. In addition to agricultural erosion control, emphasis should be placed on demonstration projects that would remove products of erosion before they could reach water systems and cause harm.

CONCLUSION

The Environmental Advisory Council strongly recommends that Executive Council determine why the principal concern of the P.E.I. Conservation Strategy "soil degradation, primarily erosion ...the single most important resource problem facing the province" is not being addressed adequately. We feel the time has arrived when good land stewardship should be rewarded. Likewise, those who continue poor land use practices that are detrimental to the public at large should certainly not be eligible for any farm or government grants or incentives. As new agreements and programs are developed within the Department, care must be taken to ensure that adequate funding is identified to address the soil degradation problem.

FORESTRY

INTEGRATED USE OF FORESTS

"Forestry extension workers should be aware of and promote wildlife enhancement".

During the past year the Environmental Advisory Council received input on the forestry industry/resource from a number of sources including silviculture workers, environmental organizations, individuals, the Department of Energy & Forestry and from "Our Island Environment" conference participants.

Concern was expressed to Council about the lack of emphasis on aesthetics and wildlife management in woodlot management plans, and the lack of training for technicians to enable them to develop optimal and appropriate aesthetic and wildlife components in management plans.

The Department implemented a research program on avifauna in 1989 and held a seminar on wildlife management in forestry. Council highly commends these initiatives.

1. Forestry should continue to upgrade their staff on aesthetic and wildlife management techniques for forest management planning.

Hand in hand with the need for aesthetic and wildlife components in management philosophy comes a need for adequate training for contractors. Some contractors are well trained. Others are more interested in the money than in doing a good job. Certain contractors are trained to carry out forestry plans geared towards aesthetic and wildlife enhancement.

Council recognizes that contractors are in the business to make a living and concede that there is not as much profit to be derived from a woodlot managed for aesthetics and wildlife, as one managed for other purposes.

Nevertheless, while management of woodlot for aesthetic and wildlife reaps little benefit for the contractor, the long term benefits to the landowner and to the province are well known and increase over time. Forests managed for recreation and for wildlife habitat will become more and more precious as the years pass.

2. Programs should be developed to provide incentives to the contractor when aesthetics and wildlife management is the key focus of the plan.

Council recognizes that potential or latent problems are exacerbated by the workloads of forestry technicians. A technician with a workload of up to 240 management plans in one area is ludicrous. Appropriate client/technician consultation is impossible under such circumstances. Clear communication is essential for a plan to operate without unexpected, unhappy results. The landowner does not often envisage the results of radical change or understand what options are available. The results of unexpected solutions leave the landowner very dissatisfied. Constant consultation is critical.

Council suggests that the client/technician ratio worked well on the Montague and Morell Rivers and this experience should be used as a model for other plans.

3. Foresters should be asked to comment on the number of plans they can reasonably handle.

4. Funds should be made available to increase technical staff in order that management plans may be executed with greater success and satisfaction.

"Management plans for crown lands, incorporating sound principles of integrated resource management...".

Council sees a need for more research to be carried out on the interactions and inter-relationships between soil/trees and trees/wildlife. The lack of research is a major stumbling block in the industry's ability to oversee the resource with long term expectations for its health and responsiveness. Research on forest composition and interspersion would cast light on future directions reasonable to pursue.

Presently there is not enough research being conducted to help deal with the problems we face.

Council feels it is unrealistic to expect foresters to carry out the long term, detailed research required while attending to their regular duties in the Department. When we consider that one half of the surface area of the province is forested, it is easy to deduce that we expect far too much from our foresters! They are doing an admirable job, considering the constraints and concerns they must deal with.

(13)

Groups have expressed to Council the feeling that increased staff would alleviate some of the problems that currently exist, and remove some of the fears landowners feel about management programs.

5. Because of an extraordinary workload, additional forestry staff is needed to carry out applied research in conjunction with Fish and Wildlife and other agencies.

There is a requirement for non-game biologists whose primary duties are related to aesthetic and wildlife enhancement in association with forestry programs. This would enhance liaison between the Departments of Forestry and Fish and Wildlife.

Council wishes to state clearly that the whole area of ecological forestry is a new field. In many cases there just are not answers which are applicable to P.E.I. As information becomes available, programs can be fine tuned.

FOREST DIVERSITY

"The forests renewal program should ensure development and use of hardwood species...minimize large acreages composed of a single species".

Concerns have been expressed to Council about the percent of softwoods prevalent in replanting programs. There is a recognized need for species variety in significant amounts, to be made available to private woodlot owners with management plans.

6. Council urges the Department to intensify programs for the development of a diversity of hardwoods and shrubs (wildlife food sources) for woodlots, hedgerows and green belts. Continued research that will develop techniques to insure planting success must be encouraged. As the research results allows for success, the numbers of hardwoods in the program should be intensified. Such efforts will reap profound returns as revitalized forests will markedly improve the economy and the quality of the environment for future generations.

BIOMASS

"The Province should adopt a plan...to provide sustained yield including effective utilization of high and low quality (forest) resources.

Council has considered the challenge of supplying biomass from softwoods to use in the co-generation of heat and electricity. A quick survey reveals that there is plenty of softwood on the Island. However, most of it is found on private property and may not be accessible. The wood may be long distances from the plant and in small woodlot holdings. Current harvesting techniques may not be agreeable to landowners or acceptable for small woodlots.

We have concerns about whole tree harvesting. A stand, which collapses on site, restores nutrients for the next generation of trees. Harvesting for chipping removes these nutrients. As well, wood smoke may be as polluting as oil burning for heat and energy in some circumstances.

7. Council encourages such innovative techniques as biomass co-generation so long as concerns about potential pollution problems (such as during temperature inversions) and concerns about the long term supply of chips from non-valued softwoods are addressed. While there is real potential in biomass co-generation from low quality woods, Council urges the preservation of good and high value hard and softwood for other purposes.

GREENBELTS

"The use of greenbelts for stream bank stabilization and as a wildlife habitat should be encouraged. The program should include the production of desirable species..."

The Environmental Advisory Council reviewed forestry activities along streams. There is widespread concern about the need for establishing greenbelts along Island waterways and for their subsequent management. Current forestry specifications require a greenbelt to be ten meters in depth. Council feels that a much wider greenbelt is needed for optimum management. Council notes the sixty meter greenbelt on the Morell River is functioning effectively and is acceptable to the landowners. The development of proper greenbelt management should be an integral part of standard management plans.

8. Management plans should be developed to include greenbelts along waterways and to insure their maintenance. Council recommends a greenbelt equal to ten times the width of streams, to a maximum of sixty meters.

CONCLUSION

Our forests are critical elements among life support systems on the planet. As much as 90% of Island forests are privately owned. This creates unique challenges for the forest industry/resource on P.E.I. The relationship that exists between landowners and foresters is central to the long term health of Island forests. Historically, island forests have suffered from excessive harvesting of prime stock. Now we must compensate for that loss. Every resource required must be made available to develop, protect, enhance and restore our forests.

TRANSPORTATION

EROSION CONTROL

"The Department of Transportation and Public Works is a key player in the Conservation Strategy".

The activities of the Department of Transportation and Public Works are of particular significance to environmental management for several reasons, including:

- a) enhancement measures are available which can reduce erosion problems stemming from road construction and maintenance.
- b) the highway erosion control devices can also reduce the amount of material entering watercourses from adjacent farmland.
- c) the actions are fully directed by government.

Over the past year it was evident to Council members that, in some locations, efforts were being made to reduce erosion from highway construction and maintenance. In other locations, sound road maintenance was disregarded and instruction practices were deplorable. Nevertheless, while difficult to quantify, Council notices a slight improvement overall.

1. Additional emphasis must be placed on erosion prevention by the Department of Transportation and Public Works. The provision of an environmental engineer is an essential part of highway planning. This individual would advise on proper construction and maintenance programs.

Meetings were held with senior staff of the Department of Transportation and Public Works to ensure awareness and concern about environmental problems and to encourage programs to overcome detrimental activities.

2. In most highway programs there remains a need for greater attention to erosion prevention. If funding limitations are the problem, this must be addressed by government. Poor erosion control programs indirectly cost our province a great deal of money. Prevention is less costly than remediation.

One of the key problems that is apparent to Council is the small amount of money available for erosion control as part of regular maintenance within each district.

3. Additional money should be made available for the practical application of erosion control practices in each district.

In last year's report, the Environmental Advisory Council suggested the establishment of an improved program to maintain erosion control devices. It was suggested that a youth employment program be initiated to address this program. This recommendation remains a high priority.

(19)

4. A program to maintain and/or establish erosion control devices must be implemented. A youth employment program could be developed to provide the labour needed for such a program. Council is willing to assist.

Ditches along clay roads should not be graded unless absolutely necessary. The practice of grading poor quality material from the ditch (sand) to the road crown should be discontinued.

Either good shale should be used or the road left until it can be maintained properly.

Road maintenance involving ditching must be completed before September 15 for hydroseeding to be effective. Again last year some sections of clay roads were upgraded and no seeding done (even near streams in some instances).

5. Districts should be requested to do less road maintenance if money is unavailable to complete them properly.

Activities such as the diversion of ditches onto private lands where the sediment can be filtered out, can be an effective technique to reduce the amount of silt entering streams. The involvement of community organizations can greatly facilitate the establishment of such initiatives. Community organizations can often carry out program much more cheaply than government.

6. Communication with conservation oriented groups should be encouraged in order to facilitate the establishment of erosion control facilities.

Erosion control has been demonstrated to work effectively on the Montague River. The techniques developed at this site should serve as a model for programs province-wide.

7. Techniques implemented on the Montague River must be implemented throughout the province.

CONCLUSION

Efforts in the past have shown the potential effectiveness of highway erosion control techniques. In places these techniques were applied, in many others they were not. There needs to be a new commitment by the Department of Transportation and Public Works and indeed by government, who oversees spending, to place greater emphasis on controlling highway erosion. The fact that the erosion is a multi-department challenge should lead the way for serious discussion about "watershed management planning" by government.

FISH AND WILDLIFE

COOPERATIVE WILDLIFE MANAGEMENT PROJECTS

"There are a large number of federal and provincial agencies organizations, local groups and individuals concerned with the management, use and enjoyment of wildlife".

Many examples of cooperation in watershed management are beginning to appear.

The Big Brook-Grovespine Project on the Fortune River is an excellent example of cooperative watershed management. The Eastern Habitat Joint Venture, Ducks Unlimited and the Provincial Fish and Wildlife Division are cooperating with the Souris Branch of the P.E.I. Wildlife Federation to improve a 2000 acre site for fish and wildlife.

The P.E.I. Fly Fishers Federation is conducting long-term habitat enhancement projects on the West River. Likewise, right across P.E.I. local citizen groups are developing interest in enhancing local fish and wildlife habitats. Committed local residents are one of the most critical components in the successful management of wildlife sites.

1. Watershed Management plans should be developed with community involvement to enhance habitat, populations and a variety of integrated uses.

2. Community input should be based on equality of partnership in projects. Cooperatively devised projects involving government and local organizations should be encouraged.

Even though the federal government claims jurisdiction for anadromous (sea run) fishes on P.E.I., including all salmonids, their efforts regarding habitat and population enhancement is severely curtailed by lack of funds and personnel. The expenditures of the Gulf region of the Department of Fisheries and Oceans have been cut so severely that there are no funds for the operation (fish food and staff) of a semi-natural salmon rearing facility owned by the federal government. Resource support appears to be limited by senior levels of the bureaucracy, while managerial staff have been exceptionally supportive.

3. The Federal Government should be encouraged, in any way possible, to raise the priority given to the salmon enhancement program on P.E.I.

4. It is recommended that the provincial government attempt to expedite the Recreational Fisheries Agreement being negotiated with the Federal Government.

FISH HABITAT AND POPULATION ENHANCEMENT

"Stream degradation is the most important problem now confronting the maintenance of existing stocks of fish and wildlife in the province".

The Environmental Advisory Council strongly supports the use of the Island Conservation Assistance Program for stream enhancement projects. The three day training program for summer staff, in which biologists from around the maritimes participated, was very effective. Projects undertaken have been extremely successful and this success has fostered commitment and involvement from many individuals and community organizations. Students working on the projects will not only communicate their concerns to others but they will become informed leaders of tomorrow.

5. Island Conservation Assistance Programs are of tremendous benefit to workers and communities alike. Greater awareness about the P.E.I. Conservation Strategy develops an environmental ethic. Therefore, the Island Conservation Assistance Program should be continued and expanded both in funds and diversity of programs.

ENDANGERED SPECIES

"One goal of a conservation strategy must be to prevent the needless endangering of species that share our Island homes, even though they may have little apparent economic value".

During the past year several instances arose where sound biological knowledge about non-game species was required. This included survey and management activities related to birds and forestry, as well as shore birds and colonial nesting birds on Islands.

Existing personnel with government agencies such as the Fish and Wildlife Division cannot be expected to provide the detailed information and time required for wise management of our non-game birds while continuing their current programs.

6. It is suggested that the management of non-game species should take a higher priority in the Department of the Environment. It is further recommended that at least one non-game biologist be added to the staff of the Fish and Wildlife Section. Hopefully, this person would have time to help with the private woodlot management plans developed by the Department of Forestry.

CONCLUSION

The recreational fishery on P.E.I. has a high rate of economic benefit and should be further supported and developed. Provincial government should continue to intervene, on its behalf, with the federal government to acquire project funding.

COASTAL ZONE

SAND MINING

"Sand mining is a legitimate activity in areas ... special attention should be paid to the manner in which the sand is extracted, to resolve conflicts between extractors and local residents".

In 1988, Council met with residents of communities where sand mining takes place. Council recommended that there be increased communication with communities on matters related to sand mining - amounts, locations and timing of sand removal. It was also recommended that communities be involved with verifying the amount of material removed.

Council was pleased that sand was stock piled prior to transportation from the site to ensure proper calculation of amounts harvested. There was, however, lack of communication with communities, informing them of timing and amounts for extraction.

2. There must be greater liaison between government and communities to ensure communities are aware of when, where and how much sand is being extracted.

Council was pleased that the application to the Land Use Commission to allow for development of Greenwich was not approved.

3. It is recommended that a program be established to encourage public support for countryside laws and ethics. With the embracing of this "countryside code" continued use of the Island for leisure activities is secured. Protection of sites where stream enhancement has increased recreational opportunities will be assured for future generations.

CONCLUSION

The protection of Island waterways, landscapes, forests and shoreline depends on a high degree of public awareness and support for a "countryside code" or ethic. Government has the ability to act as a catalyst in this regard.

**WATER MANAGEMENT AND
POLLUTION CONTROL**

**DUMPS AND SANITARY LANDFILL
SITES**

"Because our province is not heavily industrialized we do not suffer from the major pollution problems of more densely settled parts of the country. This does not mean pollution is not a problem".

In 1989, the Environmental Advisory Council continued to review the disposal/landfill program. There remains poorly managed dump sites on P.E.I. In 1988, Council recommended a universal tippage fee for landfill site users and also recommended additional funds for proper site operation. These recommendations remain valid in 1989.

1. Council recommends increased funding for proper dump management. This includes training for operators. Universal tippage fees should be established.

As noted in the agriculture section of this report, recommendations were made for improved collection, handling and disposal techniques for agricultural chemicals (Appendix A).

HIGHWAY LITTER

As recommended by Council in 1988, the Department of Transportation and Public Works has produced and erected signs to discourage littering. Council commends this action. In support of this initiative, Council is working on a litter bag program to be introduced in the summer of 1990.

STREAM LITTER

Stream enhancement and trail development projects have contributed to increased numbers of people using such areas. With this increased usage has come a litter problem. Garbage cans were installed by several organizations. There is a need for representatives from organizations to "patrol" the area to encourage public cooperation.

BIOMEDICAL WASTES

The Environmental Advisory Council reviewed the current status for the disposal of biomedical wastes and made suggestions to the Minister.

2. It was recommended that because of the relatively small amount of material which is originating from facilities not incinerating such wastes, biomedical wastes should be transported to a proper incineration facility.

CONCLUSION

Examples of a co-operative commitment to watershed management on P.E.I. is evidenced with work successfully undertaken by several communities. Government should consider watershed management planning as an environmentally sound approach to interdepartmental challenges.

**LANDSCAPE, LAND USE PLANNING
AND TOURISM**

DEVELOPMENT

"Environmental considerations should play a greater role in the land use planning process".

The cost associated with the Greenwich and Boughton Island Land Commission hearings was above the realistic capacities of non-profit organizations to contest. As indicated in the submission to the Royal Commission on Land (Appendix C), Council feels that better guidelines for the development of offshore Islands, the coastal zone and other environmental sensitive areas should be established.

1. Long term guidelines should be established clarifying limitations to development in environmentally significant sites.

The Environmental Advisory Council continued to monitor the progress of the investigations on the impact of the fixed link. Council feels that in general, the direct environmental impacts have been addressed. Concern was expressed about the ability of government infrastructure to protect the environmentally significant areas from the pressures resulting from the anticipated tourism increases.

2. Should a fixed link be approved, the provincial government should initiate action to develop programs for the protection of P.E.I.'s environmentally significant areas.

NATURAL AREAS

"The government should make a commitment to protect environmentally significant sites in this province".

The Environmental Advisory Council recognizes the need for providing long term protection for the most environmentally important sites on Prince Edward Island. Council recognized the need for a variety of protected areas including:

- (a) ecological reserves and special areas;
- (b) existing sensitive and fragile sites such as sand dunes etc.;
- (c) representative sites - especially those near population centres for educational purposes;
- (d) green belts.

3. Council recommends that a program be initiated to acquire environmentally significant areas. Concern is expressed that unless such a program is instituted, sites may be lost or altered prior to being protected.

4. Council recommends that a long term goal should be established to provide or encourage the development of a green belt for all Island rivers and streams.

CONCLUSION

Prince Edward Island has environmentally significant sites of uncommon natural beauty and certain fragility. Because of this, land use planning must be firm in its policy to protect this environment while assisting sustainable development sympathetic to the Island's heritage and character.

The province should work towards acquiring environmentally significant areas in the near future, while sites still exist in their natural state.

EDUCATION AND PUBLIC AWARENESS

ENVIRONMENTAL EDUCATION

"We strongly recommend that the province develop an integrated science based program of environmental and resource education".

The Environmental Advisory Council reviewed preliminary information collected as part of a study of the environmental and resource education program currently being taught in the school system. The final report will be completed in early 1990.

It is anticipated that the recommendations will require a major commitment by government.

1. It is suggested that government seriously explore the recommendations of the study.

PUBLIC AWARENESS & INVOLVEMENT

"Ways must be found to involve the whole of the Island Community in the concepts of sustainable development and stewardship of resources".

The Environmental Advisory Council has made a number of presentations to schools, community schools and organizations. This has served to raise the public's awareness of environmental issues to some extent.

The Environmental Advisory Council has strongly supported the use of Conservation Strategy funds for the Island Conservation Assistance Program because of the benefits of visible activity in communities. With awareness it is hoped that activities harmful to the environment will be reduced.

2. It was recommended that Government continue to expand the Island Conservation Assistance Program in order to encourage communities to develop and carry out their own environmental projects, thereby raising community awareness.

The Environment Advisory Council supported the Island Conservation Assistance Program training programs by serving as instructors. Environmental Advisory Council members have also visited project sites to encourage the participants and provide advice.

3. The Council suggests that government promote opportunities allowing for the viewing of the recently released video on agricultural erosion entitled "Just Trying to Make a Living".

CONCLUSION

Every facet of environmental progress involves an educational component. This has been driven home to the Environmental Advisory Council at every turn. We sense a willingness, even a hunger, to learn. Government should promote environmental learning opportunities at every level, using all its resources to instruct Islanders about the future of their province and planet.

LEGISLATION & ENFORCEMENT

ENVIRONMENTAL PROTECTION ACT

The Environmental Advisory Council reviewed amendments to 1) the litter regulations (refillable bottles), 2) air quality regulations, and 3) the proposed Environmental Protection Act. Suggestions and comments on each were made.

At one location the Environmental Advisory Council reviewed a proposal to modify a length of shoreline to enhance tourism opportunities. This would have required a deviation from current regulations. It was recommended that the proposed activities not be permitted.

It was drawn to the Minister's attention that the portion of the Act dealing with infilling of marshes and streams was being violated at Ellen's Creek.

It is recommended that the Ellen's Creek site be fully restored. Local residents must have knowledge of and involvement in the restoration process. The public must be made more aware that our environment will be protected.

1. It was suggested that government regulations be strictly enforced. Exceptions will make regulations more difficult to enforce in the future.

NATURAL AREAS PROTECTION ACT

The Environmental Advisory Council was identified as the review committee called for by the Act. Council was pleased that 11 sites were designated in 1989.

Council remains concerned about the adequacy of current programs to protect our provincial natural areas.

2. It is recommended that a program for acquisition of additional natural areas be initiated, to be carried out in conjunction with non-government organizations such as the Island Nature Trust.

CONCLUSION

The Environmental Protection Act must be rigorously enforced. The public should be involved in environmental protection where ever possible. Natural areas at risk - a program of acquisition, should be implemented.

OTHER ACTIVITIES

The Environmental Advisory Council has responded to requests of the Minister and problems as they arose. The following is a list of items that did not fall into the categories listed elsewhere in this report.

Young Environmentalist Program

The Environmental Advisory Council made recommendations on how this program might be most effectively operated.

Environmental Awards

Council invited submissions for the Environment '89 Awards. Nominations were reviewed and recommendations made to the Minister, who presented the awards.

National Assembly of Environmental Advisory Councils

A delegation from the P.E.I. Environmental Advisory Council participated in a conference of Environmental Advisory Councils from across Canada.

Royal Commission on Land Use

Many facets of government activity affect land use practices on P.E.I. A submission was made to the Royal Commission on Land Use.

Recommendations to Minister

Recommendations were made to the Minister on a variety of actions which might be considered by his Department. These included the following:

- Dial-A-Poacher Program
- River Warden Program
- Environmental problems at specific locations
- Replacements for new council members
- Logo for the Environmental Advisory Council
- Atlantic Salmon Enhancement Program
- Ellens Creek
- Cavendish Farms
- Kenny's Bridge
- Little Miminegash Pond
- Salutation Cove

COUNCIL MEMBERS

Mr. Preston MacDonald, Chairman
Lower Bedeque
P.E.I., COB 1C0

Mrs. Catherine Edward, Vice Chairman
Belfast
P.E.I., COA 1A0

Mr. Cyril DesRoches
425 South Drive
St. Eleanors, P.E.I.
C1N 3Z3

Lisa Doyle
Federation of P.E.I. Municipalities
P.O. Box 98
Charlottetown, P.E.I.
C1A 7K2

Mr. Alan Gallant (Resigned)
Urbanville RR#3
Wellington Station, P.E.I.
COB 2E0

Mr. Paul Gallant
P. O. Box 413
Souris, P.E.I.
COA 2B0

Mr. Glen Gosbee
Murray Harbour
P.E.I., COA 1W0

Mr. Daryl Guignon
Morell RR
P.E.I., COA 1S0

Mr. Ron Perry
140 Central Street
Summerside
C1N 3L8

Dr. Gary Reid
c/o Diagnostic Chemicals
West Royalty Industrial Park
Charlottetown, P.E.I.
C1E 1B0

Mr. Daniel Schulman
52 Fitzroy Street
Charlottetown,
P.E.I., C1A 1R4

Mr. Peter Townshend
Souris RR
Prince Edward Island
COA 2B0

Mrs. Louise Vantighem (Resigned)
Belfast RR #3
P.E.I.
COA 1A0

Mrs. Donna Waddell (Resigned)
Federation of P.E.I. Municipalities
P.O. Box 98
Charlottetown
C1A 7K2

Mr. Alvin Yeo
O'Leary RR #1
P.E.I.
COB 1V0

Appendix A

Recommendations to the Pesticide
Advisory Committee About the
Spraying of Pesticides on P. E. I.



PRINCE EDWARD ISLAND

ENVIRONMENTAL ADVISORY COUNCIL

11 Kent Street P.O. Box 2000, Charlottetown, PE C1A 7N8
Telephone (902) 368-5905

December 28, 1989

Hon. Gilbert R. Clements
Minister
Department of the Environment
P.O. Box 2000
Charlottetown, P.E.I. C1A 7N8

Dear Mr. Clements:

The Environmental Advisory Council has reviewed various aspects concerning the spraying of agricultural chemicals on P.E.I. and wishes to make the following recommendations:

1. Both aerial and ground spraying have the potential to seriously damage the environment. Council recommends that all applicators of chemicals larger than for household use (non-commercial - 1 acre), be required to participate in a training program of sufficient duration to make them fully aware of the potential problems to the environment, as well as proper techniques for the preparation and application of the chemicals. A permit resulting from this course will be necessary for the purchase and application of all such chemicals.
2. The proposed changes to the Pesticides Control Act Regulations for aerial spraying be approved with the exception that spraying not be permitted within 100 meters of a water body.
3. That ground spraying be prohibited within 100 meters of a water body when winds are above 20 kilometers per hour.
4. That staffing be increased to monitor compliance to these regulations.

.../2

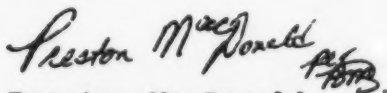
Advising the Minister responsible for the environment

Hon. Gilbert R. Clements
Page 02
December 28, 1989

5. That the federal government be encouraged to carry out research to determine the impact of agricultural sprays.
6. That a long term program be initiated to allow for the collection, storage and disposal of unwanted chemicals. A program should be initiated to encourage the recycling, reuse or disposal of chemical containers.
7. That the provincial government support proposed changes to federal regulations requiring manufacturers to supply wind drift data on a product by product basis. We would also recommend that the Minister take steps to ensure that the information is available for training purposes.
8. That all sprayers be equipped with a filtration system so as to reduce uneven, and hence overly concentrated dosages, of pesticides.

It is further recommended that the regulation preventing vehicles carrying pesticides from filling with water be more strictly enforced. It is acknowledged that sprayers no longer are taken to water sources to be filled, but there have been complaints that the water hauling vehicles are carrying both full and especially "empty" chemical containers.

Yours truly,

A handwritten signature in cursive script, reading "Preston MacDonald". To the right of the signature, there is a small, illegible handwritten note.

Preston MacDonald
Chairman

EAC06/mja

Appendix B

Responses by the Department of
Energy and Forestry to Concerns
Expressed by the Environmental
Advisory Council

I. Inadequate communication among the landowners, contractors and forestry staff, after initial contact.

Response:

Presently there are 2300 signed management plans served by 12 technicians resulting in an average load of 192 properties to be managed by each technician is 200. This is possible, as on average only 60 of the 200 are active at any one time. It is only possible if the land base of the 200 woodlot owners does not exceed 5000 acres. In determining this maximum client load, the assumption is also made that the first priority of field staff is for the delivery of the silviculture program and secondly for landowner education.

As the silviculture program has grown it has been necessary to shift the responsibility for landowner education to the landowner, with our field staff providing assistance upon request or as support on structured programs. If additional responsibilities were assumed by staff, or the number of clients was increased, the current level of service or involvement with landowners would decline.

The most evident lack of communication is in the relationship between the landowner and contractor. This is something that the program cannot easily correct as the more the government becomes involved, the less necessity there is for the landowner to assume control. If total operational control is assumed by the government, a great disservice will be fostered on the landowners. It is a more acceptable course for the government to continue to persuade, either directly or by default, the landowner and contractor to establish their own line of communication.

The Department is, however, presently negotiating with the Federal Government, under the Forest Resource Development Agreement, to expand its forestry consultant service. If more plans are prepared by consultants, it will allow technicians to spend more time with clients.

There are indeed two specific avenues to strengthen the relationship between landowners and contractors - education and landowner contribution. Clients are now paying a percentage of forest management, and hopefully they will become more involved in the results from "their" money. In the area of education, the Department of Energy and Forestry is conducting forest management courses for woodlot owners. It is suggested that there is a need for woodlot owners to form active groups and become involved in forest management issues.

II Limited variety of tree species available especially Acadian hardwoods.

Response:

In the spring of 1989 the Department of Energy and Forestry initiated work on a Hardwood Discussion paper to identify the areas of concern with regard to the implementation of a hardwood planting program. In September of 1989 Dan MacAskill, Bill Glen, Mike Butler and Bill Butler were asked to develop a draft paper on the implementation of a hardwood planting program. This group has been gathering data and meeting to determine solutions to the following impediments to implementing such a program:

- a) the lack of sufficient seed of P.E.I. origin forrarer, high quality trees such as red oak and white ash;
- b) the prioritization of work so that the genetic integrity of the rarer hardwood trees in the provinceis protected; and,
- c) the development of information on how to produce, plant, and care for pure hardwood and mixed plantations so that a reasonable plantation establishment success rate can be achieved.

III Lack of in-depth knowledge (and variety of tree & shrub species) to develop optimum forest management plans for diversified wildlife populations.

Response

The problem as qualified by the EAC is not really the problem. The critical problem is that information on the populations of the various forest vertebrate animal species and their critical habitat needs on Prince Edward Island is simply not available. In an attempt to overcome this, the Department has been and is continuing to work closely with the Montague Watershed staff to develop some of the information which is needed; e.g. between the two projects in 1989, forest breeding bird surveys were implemented across the province in managed and unmanaged forest stands.

There is a pressing need for base wildlife population information for Prince Edward Island, particularly for birds. This area requires much more attention by wildlife agencies if rational wildlife/forest planning is to take place. Until it is available, recommendations on planting programs cannot be directed towards real problems.

Recent studies on birds have shown that larger stand sizes are necessary for healthy bird populations. Some of these studies indicate sizes of 20-50 hectares as ideal. However, land ownership patterns in P.E.I. will result in stand size significantly less than these ideal numbers.

IV Concern that continuing softwood planting and harvest on acid soil will lead to increased acidification, poor growth and thus poor returns.

Response

Literature on forest soils agree that softwood species usually tend to acidify soil. Acidification is a natural part of most growth processes (i.e. nitrification) and is balanced by the soil releasing nutrients and by offsite inputs. This balance of growth, soil release and offsite inputs may or may not lead to acidification on the soil depending upon the the inter-relationships between the factors.

Data gathered from 205 plots (92 hardwood and 113 softwood) across the island do not support the assumption that Prince Edward Island softwood stands are more acidic than hardwood. See Table 1

TABLE SOIL pH VS. COVERTYPE

<u>COVERTYPE</u>	<u># PLOTS</u>	<u>H. HORIZON SOIL pH</u>	<u>B. HORIZON SOIL pH</u>
Softwood	113	4.41	5.06
Hardwood	92	4.48	5.14

The sample plots wee in mature stands greater than fifty year old (except 17 plots in softwood), which were 35-40 years old.

The average growth rates of the forest of Prince Edward island based on the 1980/82 Forest Biomass Inventory was 2.43 Oven Dry Tonnes per Hectare for all material with a diameter at 1.3 meters above the ground of 1 cm or greater. Shrub material less than this is excluded. This growth rate is the highest provincial rate in Canada with the exception of British Columbia.

The major problem facing the woodland owners of the province is not the rate of growth but the form in which it occurs and most forestry operations are directed towards concentrating the growth on fewer trees.

V Concern that whole tree harvesting (excluding roots) will result in nutrient and organic depletion of forest soils.

Response

Literature and scientific opinion on the subject vary. There have been no studies carried in the Province specifically to address this concern. However, permanent sample plots and plantation assessment are monitoring growth on a variety of sites including sites that have been harvested by a full tree method.

This year, a study designed specifically to monitor nutrient movement through a site harvested by various methods will be established in P.E.I. by Forestry Canada under the direction of T. Mahendrapa.

The Forestry Branch is considering requiring biomass harvesting operation to leave a proportion of the biomass on poor sites and to recommend needle drop on all sites. The sites quality will be determined using the site index curves which have been developed over the past five years and were published in the Forestry Handbook in 1987.

Other activities of the branch which impact on this topic include examination of site preparation so as to leave lop and top evenly scattered across the site where it is not harvested and the use of wood ash from the existing wood fired heating plants as a soil improver.

Note: One implication that can be drawn from the white spruce mortality study, which has been ongoing in conjunction with Forestry Canada since 1985, is that the mortality is due to a lack of nutrients. A fertilizer experiment established in 1987 and due for analysis in 1992 is looking specifically at the micro nutrients of copper, zinc and sulfur and calcium. Although actual results will not be known for two years yet, visual observations indicate that the addition of the nutrients has had no effect on stand health.

VI Several complaints of stream crossings and use of heavy machinery in and around streams.

Response

The Department of Energy and Forestry has been administering incentives for the construction of stream crossings since late in the 1970's. When first implemented under the auspices of the Policy 5 Private Woodlot Management Program, forest road standards were developed in conjunction with the Environment Management Committee (E.M.C.). The E.M.C. was a multi-disciplinary committee with representatives of the Department of Agriculture and Forestry, Department of Environment, U.P.E.I., P.E.I. Natural History Society, P.E.I. Wildlife Federation, etc. Once standards for road construction and stream crossings were developed and approved by the E.M.C., they were supplied to the Stream Alteration Advisory Committee (S.A.A.C.) for use in minimizing the environmental impact of forest management roads, and in particular, stream crossings.

These road construction and stream crossing standards have been periodically updated, and the current guidelines form part of the Canada-Prince Edward Island Forest Resource Development Agreement (F.R.D.A.) Schedule of Rates and Standards. All standards in the Schedule become part of the crossing permit when it is approved by the Watercourse Alteration Advisory Committee, and must be met or exceeded before payment of the incentive is authorized.

Examples of areas of concern addressed by the standards include seeding or riprapping exposed unstable soil, sizing the bridge opening to the peak stream flow, limiting stream crossings to one per woodlot (where feasible), and restriction of construction to summer months when fish spawning activity is low. Complete road construction and stream crossing guidelines are available in the 1989-90 F.R.D.A. Schedule of Rates and Standards. During construction it is usually necessary to cause a degree of disturbance while building approaches of abutments. Although this type of disturbance is unavoidable, any damage to the stream caused by construction of the crossing must be repaired immediately.

On private woodlots receiving incentives from the F.R.D.A., it is possible to see heavy equipment working around or in streams at crossing construction sites. However, this type of activity is limited to the construction period. Woodlot owners who apply for a stream alteration permit are also subject to the same guidelines as included within the Department's programs. Use of these guidelines result in limited stream disturbance during construction, and provide low environmental impact crossings to access and manage woodlots previously inaccessible without fording streams or building unstable, temporary crossings.

More excessive or sever damage to streams may be present on crossings for which the landowner does not apply for a Stream Alteration Permit and commences construction without any guidance or financial support from the Department of Energy and Forestry.

VII Concern that inadequate buffers are left along streams after forestry operations.

Response

Stream temperatures on Prince Edward Island are generally in the 15 to 20 degree centigrade range during the critical summer period for trout and salmon (refer to the attached graphs). The lethal level is 30 degrees although it is desirable to maintain temperatures at or below 25 degrees. The neutral to slightly basic stream pHs on Prince Edward Island help to reduce the degree of stress induced by temperatures on trout and salmon populations. The Department has been discussing the need for forest cover in this zone with Federal Fisheries personnel but the fisheries experts are unable to provide appropriately backed research information of what is needed in a forest cover for this zone.

The Department will continue to work with these experts in an attempt to identify what type of cover should be achieved to offer the longest term stable forest cover for streams on the Island.

VIII Concern that large even-aged stands of softwood could result in future problems as severe as those now being experienced by white spruce stands.

Response

The white spruce mortality is specific to stands growing on abandoned agricultural land. White spruce and other species grown on land that has not been in agricultural production do not suffer from the phenomena.

The distribution of white spruce by age show approximately 37,000 ha. between the ages of 30 and 50.

At the current rate of planting of 1000 ha/yr. the age class of these plantations will only be 20,000 ha. in the 30-50 year class. It should be as noted that the Forestry Planting program consists of 6 softwood species and is not focused only on one. Density control of these plantations also gives flexibility to the land owner in terms of when to harvest. Increased diameter growth will allow an early harvest. Observation of thinned stands of white spruce on old fields indicate that they may survive to ages over 50 years.

Appendix C

Brief to the Royal Commission
on Land
by the P. E. I. Environmental
Advisory Council

BRIEF TO THE ROYAL COMMISSION ON THE LAND
SUBMITTED BY THE PEI ENVIRONMENTAL ADVISORY COUNCIL
APRIL 24, 1989.

The presence of the Environmental Advisory Council at these hearings should be an expected one. We are, by the very nature of our work, concerned about environmental protection. Issues of land use, land ownership and the landscape are deeply rooted in the realities expressed in our understanding and treatment of this Island home (environment). With global thought and energy now directed to the necessity and practicality of sustainable development, we Islanders must accept that focus as our own. As always throughout history, the obvious wisdom is adopted in the very nick of time. Let us hope in this instance, that we are not too late.

At least here, it is encouraging to know we have developed a Provincial Conservation Strategy - the very first of the provinces to achieve this nationally directed goal. We have a newly established Round Table on the Environment. This body too, is a jump ahead of the other provinces because of the existence of our Conservation Strategy. Recently, the creation of a separate Department of the Environment gives further evidence that the present government is committed to the protection of the environment. This does not mean all is well; this is recognition of the fact that there is much to do.

In this presentation, Council wishes to address a number of issues, highlighting the need for government policy and government programs. They include:

- landscape
- coastal zones & offshore islands
- strip development
- community/provincial plans
- taxation and assessment
- forestry
- highways
- parks and recreation
- fish and wildlife
- natural areas
- education

LANDSCAPE

With spring upon us, our expectations are high for the riot of colour soon to overtake us. We need this after winter and it's monochromatic pleasures. Amazingly, we are never deprived of this joy. Year after year, the landscape retrieves, restores, revives our spirit. Yet we rarely consider how fragile an environment we inhabit; or how dependant we are upon it for our way of life.

The Island landscape has a tendency to degrade under normal development or use by man. However much it appears to "carry on", it is not long-suffering. Because of this fragility, it is necessary to provide the incentive or policy to ensure gradual rehabilitation or maintenance of the landscape of P.E.I. In extreme circumstances, where degradation of the landscape is obvious we tend to react with remedial measures, most of which are costly and arrive as an after-thought to the problem. In some cases we simply admit that something has been ruined... the "Oh well, what can we do now!" syndrome sets in as a characteristic of Island personality, which is very long-suffering.

If we expect to have our spirits revived in the future we must take pro-active steps to protect the landscape from degradation of every sort - agricultural, architectural, environmental. Policies must be developed that reflect the philosophy of sustainability - meeting the needs of the present without compromising the ability of future generations to meet their own needs.

The diversity of the landscape on Prince Edward Island presents a definite challenge. We have marshes, forests, sand dunes, streams, shoreline, off-shore islands and pastoral farmland to consider. Preserving the environmental integrity of these vistas will take more than a good imagination. Policies should be developed to prevent any action detrimental to the ongoing quality of these vistas. These might include restrictions to prevent major forest clear cuts; restrictions on building construction in areas of outstanding natural beauty; aesthetic codes for architectural standards; multi-species hedgerow planting; increased acquisition of natural areas; restrictions limiting industrial development to designated industrial parks; etc. Long term protection and improvement of the landscape is not impossible. The necessary ingredient is will.

A system would have to be set in place to determine where the landscape is at risk. Recently there has been the idea of a Countryside Commission under discussion. This Commission would be a non-government group entrusted with the job of determining good and bad land use practices. In effect, a body responsible for stewardship. It would assist in planning for landscape management and for the protection of natural areas. It is a novel idea with a wholesome ring to it...perhaps an idea whose time has come.

COASTAL ZONES & OFFSHORE ISLANDS

P.E.I.'s scenic coastline contains 60% of class 1 C.L.I. (Canada Land Inventory) in Atlantic Canada. In relative terms, this means the Island is blessed disproportionately with top quality beaches. This is a gift of nature that we should be assured of enjoying with our own families, as well as one we can be proud to share with visitors.

Possession of and access to our beaches must be retained or acquired. As pressure from non-residents increases and as resident and non-resident land speculation escalates, policy must be developed and implemented to protect PEI's coastal zone - including salt water marshes, tidal estuaries and off shore islands.

Council awaits government action and will continue to pursue this issue in whatever manner it sees necessary.

STRIP DEVELOPMENT

The importance of controlling strip development is becoming more and more apparent. It is a rare sight to see a rural landscape not changed by strip development.

Council is concerned about the environmental effects of strip development. One major concern is the effect of such development on groundwater. We cannot go on poking endless holes into the water table without reaping the problems of such an approach to water supply. Strip development usually takes place near agricultural activity and its concurrent agricultural chemical use. Wells are at risk of contamination, as evidenced in O'Leary, where uncontaminated water is becoming difficult to find because a large number of private wells exist in the midst of farming activity.

All of our drinking water comes from groundwater - there are no other sources. If we contaminate this supply there is no other alternative. Many Islanders don't recognize the crucial nature of our groundwater supply.

To protect homeowners from well contamination and to protect the groundwater system, Council suggests policy be developed to distinguish areas to be used for agriculture from those to be used for housing. This will protect activities which are traditional and acceptable for agriculture from the scrutiny of homeowners who encroach on farmland in strip developments. As well, such policies would protect homeowners from well contamination by promoting the use of group wells or municipal water and sewage systems.

We are concerned too, that strip development reduces the available acreage of quality farmland. Farming is a resource industry that requires a large land base. Prime agricultural land must be preserved for that use.

Strip development causes congestion along our highways. (e.g. the Charlottetown to Brackley road)- It wrecks the scenery for the motoring public and can altogether exclude vistas from public enjoyment.

COMMUNITY AND PROVINCIAL PLANS

Twenty-eight communities in P.E.I. have developed Official Plans. This community responsibility for its own future should be encouraged. Planning can prevent environmental catastrophes. But do community plans now include a sufficiently strong environmental component under the Planning Act? Can a good plan be changed on a whim? (Note the changes in the Marysfield plan which eliminated all the green space in the community.) Is qualified assistance available to communities as they develop their own plans? Are adjacent communities developing plans similar enough to allow effective land management where the two communities meet? What happens when they do not? These questions lead Council to the conclusion that a Provincial Plan must be developed to provide a framework for management. Only then will we have a clear idea of our potential and our ability to steward that potential wisely. This is an instance when policy will provide a safe boundary for the imagination to flourish.

TAXATION AND ASSESSMENT

Government raises money through taxation. Council favours a system of taxation that rewards effective, sound land management and penalizes land abuse. Land lovingly cared for should not be taxed at the same rate as land which has been abandoned or abused. Islanders must be encouraged to use good management practices - to protect and improve our natural areas, forests, farmland, streams and wildlife habitats.

For instance, we question government's practice of stepping in with expensive remedial measures to correct soil erosion. Soil erosion is a symptom of bad farming practices. Is this not a reward for poor stewardship? Council would prefer that credit be given to landowners who are good stewards - incentives for a job well done. Cross compliance is a tool that is accepted readily and encourages good land management. By increasing good land use through stewardship initiatives we actually increase tax dollars returned to government via the benefits of stewardship spinoffs -for example, improvement in the recreational fisheries and the mussel industry due to increased environmental quality in our rivers and estuaries.

Government should consider tax stewardship credits and natural area stewardship credits for good land management. Council does not see this as a bureaucratic impossibility. There are sound criteria for determining stewardship practices. Some research would have to be undertaken, though the experience of other countries who have adopted similar systems could be of help.

The Soil Conservation Service in the United States could offer advice on some aspects of its agricultural programs that would

major tourist marketing tool. It could also significantly enhance hiking opportunities for PEI - tying in with other trails and heritage roads, as well as supporting educational initiatives.

The degree to which we develop an environmental component in our tourism industry will determine to a large extent the type of person attracted to the Island for a vacation. Respect for and interest in the environment surely stand as desirable qualities in the visiting public.

NATURAL AREAS

Natural Areas in Prince Edward Island make up a small percent of the total land base. Programs must be developed to encourage good management of natural areas by private owners. There must also be policy to protect natural areas already under crown ownership. This should include increased resources dedicated to the proper management of such areas.

Government should develop a policy for the acquisition of natural areas over a finite period, for example 2 or 3 sites acquired per year over a 20 year period. With each passing year the importance of tracts for wilderness or "getting away from things" will become more intense.

Many properties under temporary crown ownership have natural areas within them. When such properties are transferred to private ownership, such as agricultural lands from the LDC, consideration should be given to the retention of natural areas, such as green belts along rivers.

Green belts should be established along all rivers on crown land. This buffer zone acts as a deterrent to soil erosion and provides excellent wildlife habitat. It has been the experience of the Morell Conservation Committee that in order for a green belt to be effective in promoting river rehabilitation and maintaining conditions for recreation and wildlife, the buffer zone on each side of the river must be equal to ten times the width of the river.

Land Development Corporation holdings should be prime models of exemplary stewardship based on sustainable development goals and the recommendations of the Conservation Strategy. Sensitive areas, particularly hilly farmland, should be maintained under permanent cover, such as pasture or reforestation, or as minimum tillage sites growing long-lived foliage such as alfalfa.

FISH AND WILDLIFE

Population of most wildlife species on PEI are not monitored. To date, management efforts have been directed towards

harvesting game or problem species of wildlife. However, the welfare of non-game birds whether they be associated with farmland or forested areas, is taking a higher priority as Islanders put out more bird feeders and start to educate themselves about the diversity of our avian neighbours. In the future, much more research and monitoring is necessary to ensure that quality habitat is maintained to guarantee continued existence of good populations of our various wildlife species.

Perhaps nowhere is the degradation of habitat more evident than in our water courses. All over the Island silt has ruined streams and rivers, choked out the ponds and filled in our productive estuaries and bays. Almost all our stream habitat has been degraded or destroyed because of improper land use. The road to recovery for our streams and rivers will be slow. However, more and more there is demand for recreational use of these resources by both Islanders and visitors.

The outstanding success in rejuvenating the Morell River Salmon run shows that continued efforts by governments and communities will reduce the degradation trend. However, green belts have to be established, land use on the uplands (whether forest, farm or road) has to be improved; money and resources have to be made available and most of all people must become aware and involved.

Council brings your attention to a paper presented to the Senate Committee on Fisheries, which we have included with this Brief. It outlines the development of our recreational fisheries and its many benefits to Prince Edward Island.

EDUCATION

Embracing the philosophy of sustainability is a crucial step. Central to this philosophy is the understanding that the fruits of our work, and indeed our sacrifice, are to be passed on to our children. If we fail to raise our children with sympathy for these goals the entire exercise will fail miserably.

Current evidence points to the fact that present educational realities produce students who are environmentally illiterate. Council members who teach at the university level are increasingly aware and concerned about this trend.

It seems that we take little children, open to the wonders of this planet, process through a system that coughs them out bereft of interest in the world that once fascinated them. This is not to say that, individually, there are no children with an environmental soul. Collectively, though, this aspect of their education has been suppressed.

Ironically, our rural schools are located in idyllic surroundings for outdoor education programs. Few are available

or encouraged. Other programs are ineffective - available in some schools but not in others.

Council feels that environmental study is central to a child's understanding of his world...how it works and how he or she can contribute to its future. Conservation Education Programs must be developed and used on a province-wide basis at all levels. The investment in our own future depends on this education. Who do we think will be making decisions when we are too old to carry on? How do we want these decision-makers equipped for the job?

Environmental education must be a major thrust of government. Teachers need support with training. School-boards and parents' associations must be encouraged to support environmental education. Persons involved in the decision making process must understand the importance of the environment...so that they can support programs and initiatives that foster or include an environmental component. Without this understanding, development in conservation areas is impossible and students working in the field have difficulty finding work as environmental work is bypassed or neglected.

Parents too need to have a sound appreciation of the world around them. If we fail to give our children reason to fall in love with this Island and fail to provide them with the opportunities to help them to stay - then we mustn't be surprised when they leave, good riddance written on their brows. It's true that the youthful spirit longs for adventure away. But that done, it will be our greatest blessing to be able to welcome that youthful spirit home...and to be able to see in those eyes the reasons for returning.

CONCLUSION

Every government leaves a legacy. Much of what any government achieves, it does so by example. We can't underestimate the importance of example as a tool to significantly improve the land and the life we derive from it. As challenges of land use, land ownership and the landscape face Islanders, government has the unique opportunity to use its own lands as models of effective, creative management. People need a demonstration of stewardship to see it as feasible, worthwhile. We need to see government's commitment in action - to be inspired to embrace stewardship ourselves. Sustainability cannot just be preached to us; it must be shown to us.

The Environmental Advisory Council will continue to study, investigate and keep a watchful eye on all these matters. We will pursue our responsibility as advisors to the Minister doggedly. We appreciate this opportunity to make our concerns known and will await the Commission's recommendations with interest. These too we will study. We will keep a watchful eye

for implementation, keenly aware of public concern that all this will come of naught.

enclosed: 1) PEI Environmental Advisory Council Annual Report
2) Highways and Erosion Paper
3) Development of Prince Edward Island's Recreational Fishery
4) Conservation Strategy